

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Amended) An interface system suitable for coupling a first bus interface controller with a second bus interface controller, comprising:

a first bus interface controller; and

a second bus interface controller wherein the second bus interface controller is coupled to the first bus interface controller via an interface including

a command queuing interface suitable for enqueueing a transaction;

a command completion interface suitable for reporting transaction completion;

and

a data transfer interface suitable for transferring data, wherein commands in the command queue include memory, input/output, configuration, and split completion commands.

2. (Original) The interface system as described in claim 1, wherein command and control information are suitable for being exchanged on at least one of the command queuing interface and command completion interface while data is exchanged on the data transfer interface.

3. (Original) The interface system as described in claim 1, wherein data for a transaction is suitable for being moved without respect to a current transaction being requested on a control bus.

4. (Original) The interface system as described in claim 1, wherein a backend master device enqueues a transaction on the command queuing interface, at least one transfer of data is accomplished corresponding to the transaction queued on the

command queuing interface, and completion status of the transaction is reported on the command completion interface.

5. (Amended) The interface system as described in claim 1, wherein a plurality of transactions are queued, the transactions being transaction are completed without regard to an order the transactions are queued.

6. (Original) The interface system as described in claim 1, wherein the first bus interface controller is suitable for coupling to a backend device and the second bus interface controller is suitable for coupling to an internal bus of an information handling system.

7. (Original) The interface system as described in claim 1, wherein the first bus interface controller conforms to at least one of a USB standard, SCSI standard, fiber standard and the second bus interface conforms to at least one of a PCI standard and PCI-X standard.

8. (Original) The interface system as described in claim 1, wherein a plurality of data transfers on the data transfer interface are executed, the plurality of data transfers corresponding to a transaction queued on the command queuing interface.

9. (Amended) A method of transferring data, comprising:
enqueuing a transaction on a command queuing interface;
transferring data corresponding to the transaction on a data transfer interface;
and
receiving notification of completion of the transfer of data corresponding to the transaction, the notification reported on a command completion interface,
wherein a plurality of transactions are queued, wherein the transactions are completed without regard to an order the transactions are queued.

10. (Canceled without Prejudice)

11. (Original) The method as described in claim 9, wherein command and control information are suitable for being exchanged on at least one of the command queuing interface and command completion interface while data is exchanged on the data transfer interface.

12. (Original) The method as described in claim 9, wherein data for a transaction is suitable for being moved without respect to a current transaction being requested on a control bus.

13. (Original) The method as described in claim 9, wherein a backend master device enqueues a transaction on the command queuing interface, at least one transfer of data is accomplished corresponding to the transaction queued on the command queuing interface, and completion status of the transaction is reported on the command completion interface.

14. (Amended) An interface system suitable for coupling a first bus interface controller with a second bus interface controller, comprising:

a first bus interface controller suitable for coupling to a backend device; and

a second bus interface controller suitable for coupling to an internal bus of an information handling system, wherein the second bus interface controller is coupled to the first bus interface controller via an interface including

a command queuing interface suitable for enqueueing a transaction;

a command completion interface suitable for reporting transaction completion;

and

a data transfer interface suitable for transferring data, wherein the first and second bus interface controllers are cores.

15. (Original) The interface system as described in claim 14, wherein command

and control information are suitable for being exchanged on at least one of the command queuing interface and command completion interface while data is exchanged on the data transfer interface.

16. (Original) The interface system as described in claim 14, wherein data for a transaction is suitable for being moved without respect to a current transaction being requested on a control bus.

17. (Original) The interface system as described in claim 14, wherein a backend master device enqueues a transaction on the command queuing interface, at least one transfer of data is accomplished corresponding to the transaction queued on the command queuing interface, and completion status of the transaction is reported on the command completion interface.

18. (Original) The interface system as described in claim 14, wherein a plurality of transactions are queued, the transaction are completed without regard to an order the transactions are queued.

19. (Amended) The interface system as described in claim 14, wherein the first bus interface controller is a triple bus interface that conforms to ~~at least one of~~ a USB standard, an SCSI standard, and a fiber standard and the second bus interface conforms to at least one of a PCI standard and PCI-X standard.

20. (Original) The interface system as described in claim 14, wherein a plurality of data transfers on the data transfer interface are executed, the plurality of data transfers corresponding to a transaction queued on the command queuing interface.

21. (New) A bus interface system, comprising:

first and second bus interface controllers for coupling to at least one backend

device;

an arbiter for resolving competing demands of the first and second bus interface controllers;

a third bus interface controller for coupling to an internal bus of an information handling system, wherein the third bus interface controller is coupled to the first and second bus interfaces through the arbiter via an interface including

a command queuing interface suitable for enqueueing a transaction;

a command completion interface suitable for reporting transaction completion;

and

a data transfer interface suitable for transferring data.

22. (New) The bus interface system of Claim 21, wherein command queuing and command completion have separate paths.

23. (New) The bus interface system of Claim 22, wherein multiple agents are supported.

24. (New) The bus interface system of Claim 23, wherein the first bus interface controller is Small Computer System Interface (SCSI) controller and the second bus interface controller is a fibre interface controller.

25. (New) The bus interface system of Claim 24, wherein the third bus interface controller is one of the group consisting of a Peripheral Component Interconnect (PCI) interface controller and a Peripheral Component Interconnect Extended (PCI-X) interface controller.

26. (New) The bus interface system of Claim 25, wherein commands that are processed by the bus interface system include configuration, input/output, and memory.

27. (New) The bus interface system of Claim 26, wherein the first bus

~~interface controller is a core and the third bus interface controller is a core.~~

28. (New) The bus interface system of Claim 27, wherein the commands that are processed are processed through at least one transfer cycle and a completion cycle that occurs after termination of the at least one transfer cycle.

29. (New) The bus interface system of Claim 28, further comprising a fourth bus interface controller, wherein the fourth bus interface controller is coupled to the third bus interface controller through the arbiter, wherein the arbiter resolves competing demands between the first, second, and fourth bus interface controllers.

30. (New) A bus interface system, comprising:
a Small Computer System Interface (SCSI) controller;
a Peripheral Component Interconnect Extended (PCI-X) interface controller, the PCI-X interface controller being implemented as a core; and
an interface for coupling the SCSI controller and the PCI-X interface controller, the interface including
a command queuing interface suitable for enqueueing a transaction;
a command completion interface suitable for reporting transaction completion from the PCI interface controller core to the SCSI controller; and
a data transfer interface suitable for transferring data.